

Sodertite Terminations

for single and three conductor underground
cable systems through 69KV



INDEX

General Information	1	Connectors/Aerial Lugs	8
Ordering Information		Stress Cone Kits	9
1/C Bracket Mounted	4	Compounds	10
1/C Flange Mounted	5	Spreader Heads	11
3/C Bracket Mounted	6	Bracket Insulators	12
3/C Flange Mounted	7		

Sodertite Terminations

Sodertite terminations are high quality, factory sealed cable terminations designed for maximum reliability. They feature exclusive metal-to-porcelain soldered joints which eliminates the need for gaskets and reduces installation time. Since their introduction in 1940, Sodertite terminations continue to prove the superiority of their design in an increasing number of field installations. The terminations will accept low pressure oil and gas filled cables as well as all extruded dielectric and paper insulated single and three conductor cables on distribution systems up to 69kV. Sodertite terminations are designed and tested in accordance with IEEE-48, 1975 standards for Class 1 terminations.

APPLICATION

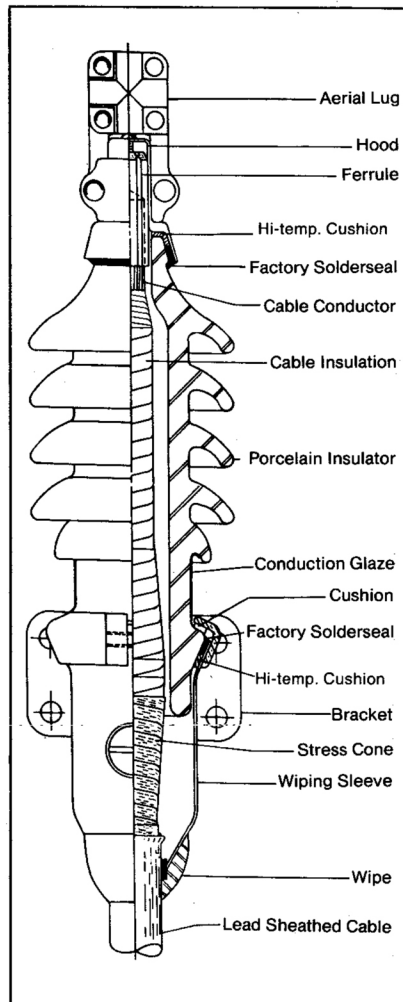
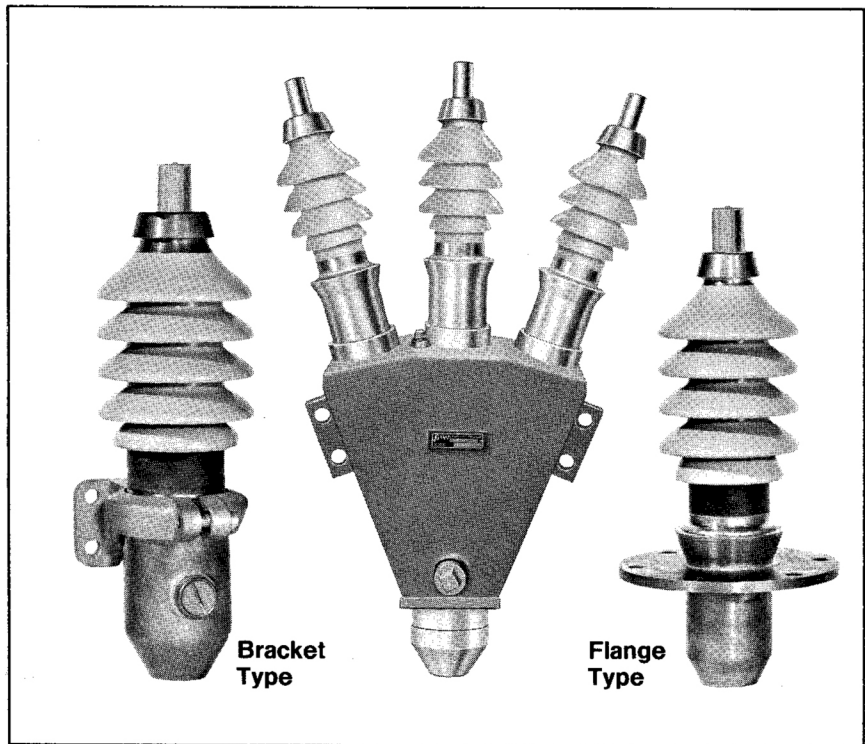
Sodertite terminations are generally used in applications where the highest degree of reliability is critical. Single conductor units are rated 15, 25, 34.5, 46 and 69kV and will accept conductor sizes within the range of #4 to 2500 kcmil. Three conductor units are rated 15, 25 and 34.5kV for conductor sizes through 1000 kcmil. Bracket or flange mounted units are available.

FEATURES/BENEFITS

Maximum external insulation—The highest grade, wet process porcelain provides excellent mechanical strength and electrical characteristics. The large diameter, petticoat design combined with an external conducting glaze between the bottom petticoat and wiping sleeve greatly increase the electrical strength of the terminator. The closed hood and ferrule design provides extra internal creepage.

Reliable stress control—Stress relief cone kits consisting of insulating tapes and shielding braid are available depending upon cable construction. Various compounds or oils are available as an insulating medium depending upon the application.

Gasketless sealing system—Special metal-to-porcelain soldered joints eliminates the need for gaskets throughout the termination. Spun copper wiping sleeve and hood provide maximum mechanical strength and positive sealing surface.



COMPONENTS

External insulation—High strength, wet process porcelain is used for outdoor and indoor applications. Large diameter petticoats and an external conducting glaze between the bottom petticoat and cable entrance increase the electrical strength of the termination. The porcelain is factory soldered at the hood and cable entrance areas. It is important to select terminations with porcelain bore diameters large enough to accommodate the stress relief cone on the cable. Porcelain bore diameters should be 3/8 inch larger than the stress cone diameter to allow for compound filling or 1/4 inch larger to allow for gas or oil filling when applicable.

Bodies—Three conductor termination bodies are constructed of welded steel with non-magnetic stainless steel top plates. Single conductor units incorporate factory soldered joining of the porcelain and cable entrance. Hoods and wiping sleeve entrances are spun copper for a positive sealing surface. Soldered filling hole plugs in 3/4" pipe sizes are standard. Smaller thread sizes or gasketed plugs are available.

Entrances—Wiping sleeve and stuffing box entrances with various optional fittings are available.

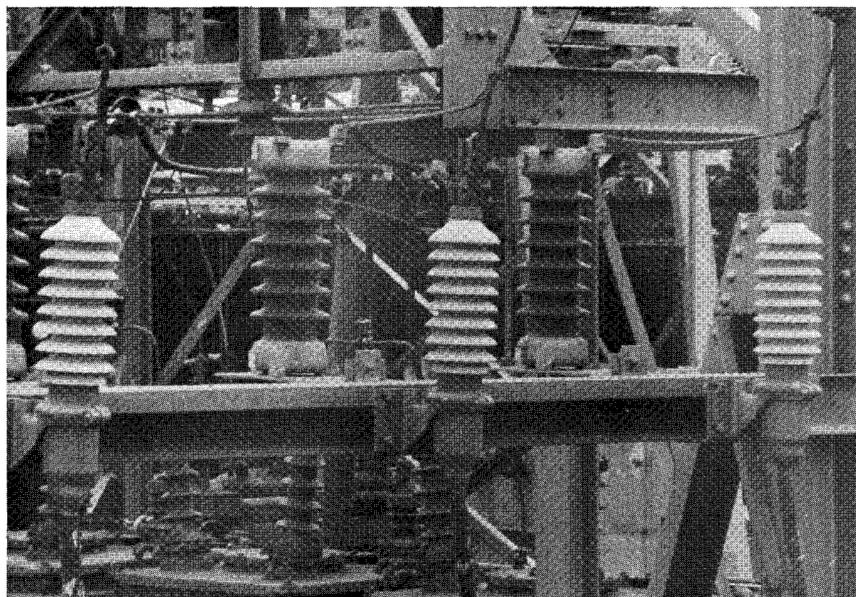


Photo shows three 34.5kV Sodertite terminations installed in an industrial substation.

TYPICAL SPECIFICATIONS

General—This specification covers the requirements for a cable termination for (bracket) (flange) mounted installation. The termination shall be as manufactured by G&W Electric Co. per product designation (ST) (STR) (RST) Sodertite termination.

Electrical Ratings—The termination shall be for service on a (15kV) (25kV) (34.5kV) (46kV) (69kV) voltage rated, (single) (three) (three single) conductor cable system. The termination shall have a BIL rating of (110kV) (150kV) (200kV) (250kV) (350kV). The termination shall meet all the design requirements as specified by IEEE-48, 1975 standards for Class 1 terminations.

Construction—The termination shall use high strength, wet process porcelain for external insulation. The porcelain shall be a petticoat design with skirt diameters sized to provide an extra margin of strike and creepage distance. The porcelain shall be coated with an external conducting glaze between the bottom petticoat and cable entrance for additional electrical strength.

The terminations shall utilize factory assembled metal-to-porcelain soldered joints for gasketless sealing. Stress relief cones and insulating material shall be used to effectively control electrical stresses in the cable. Cable entrances and aerial hoods shall be spun copper for high mechanical strength and a positive sealing surface.

Accessories—Connectors shall be (copper solder) (copper compression) (aluminum compression) type. Entrances shall be (wiping sleeve) (stuffing box) style. Aerial lugs shall be (clamp) (bus) type per designation (style 4) (style 8) (style 18).

Stress relief—Hand taped stress relief cones effectively control electrical stresses in the cable. Various kits consisting of insulating tapes and shielding braid are available depending upon the cable construction and voltage rating. See page 9 for details.

Internal insulating material—Insulating compound, gas or oil, is required for all Sodertite termination installations. Various compound materials are available depending upon the cable type and voltage rating. See page 10 for details.

Connectors—Copper solder style connectors are standard. Aluminum or copper compression style connectors are available. See page 8 for details.

Aerial lugs—Various clamp and bus style copper aerial lugs are furnished as standard. Silver or tin plating is optional. See page 8 for details. Protective rainshields are available for over the aerial lugs to increase insulation between phases if required. See page 12 for details.

Brackets—Vertical style aluminum or bronze clamped-on brackets are standard for single conductor units rated to 46kV. Cast aluminum horizontal style brackets are standard for single conductor units rated 69kV. Three conductor terminations have mounting lugs welded to the body of the termination. Flange style units incorporate either clamped-on or brazed-

on mounting flanges. Bracket and flange insulators are available. See page 12 for details.

SPREADER HEADS

Various styles of gasketless spreader heads are available for use with single conductor terminations when a greater phase-to-phase aerial spacing is required. See page 11 for details.

ORDERING INFORMATION

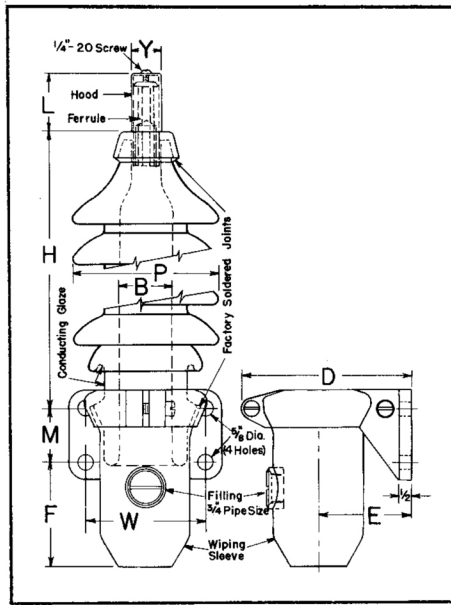
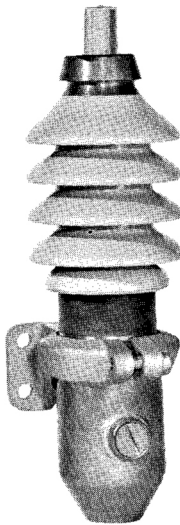
The following steps are needed for ordering:

- (a) Specify system voltage, BIL, and whether 1/C or 3/C, indoor, outdoor, or equipment application.
- (b) Provide a complete description of the cable including construction, maximum conductor sizes, maximum diameters over insulation, cable jacket or sheath and cable manufacturer (if known).
- (c) Specify aerial lug, connector (solder or compression type), cable entrance (WS or RS), stress cone kit and compound required.

ELECTRICAL CHARACTERISTICS

Voltage (kV)	15	25	34.5	46	69
BIL (kV)	110	150	200	250	350
Current rating	Same as Cable	Same as Cable	Same as Cable	Same as Cable	Same as Cable
1 minute dry, ac (kV)	50	65	90	120	175
6 hour dry, ac (kV)	35	55	75	100	120
10 second wet, ac (kV)	45	60	80	100	145
15 minute dry, dc (kV)	75	105	140	170	245

1/2" Bracket Mounted



Catalog numbers are for copper, single conductor cable and include porcelain, wiping sleeve entrance fitting and internal solder style connector. Required stress cone kits, insulating compound and aerial lugs are ordered separately. Optional connector styles, stuffing box (RS) entrance fittings are available.

Aluminum conductor cables require compression style connectors.

Note: For aluminum cable over 250 kcmil, use the next larger size termination for correct internal clearances.

Bracket* Size Code	Dimensions—in. (mm)				Approx. Shp'g. Wt. lbs (kg)
	D	E	M	W	
E	6-3/8 (162)	3-1/2 (89)	2 (51)	4-1/2 (114)	4 (1.8)
F	7-1/4 (184)	3-7/8 (98)	2 (51)	4-1/2 (114)	5 (2.3)
G	7-7/8 (200)	4-1/4 (108)	3 (76)	5-1/2 (140)	7 (3.2)
H	9-1/2 (241)	5 (127)	3 (76)	6 (152)	10 (4.5)

*Code letter appears as last digit in termination part number.

Cast aluminum alloy brackets are standard. For bronze brackets add suffix "J" to part number.

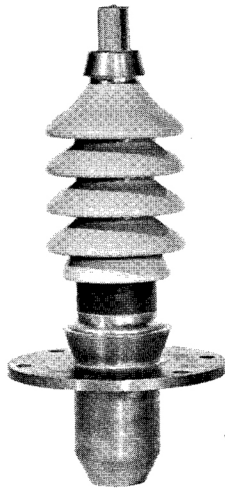
Style 'ST'—For Compound, Oil or Gas Filling*

Max. Cond'r. Size		Catalog No.	Dimensions—Inches (mm)							Approx. Shp'g. Wt. Lb (Kg)	Approx. Comp'd. Req'd. Gal (L)
KCM	mm ²		Bore "B"	O.D. "P"	F	H	L	Y			
15kV (110kV BIL)											
250	127	ST172E	2 (51)	5-1/2 (140)	3-13/16 (97)	11 (279)	1-3/4 (44)	7/8 (22)	22 (10)	1/4 (1)	
350	177	ST175E	2 (51)	5-1/2 (140)	3-13/16 (97)	11 (279)	2-3/16 (56)	1-1/8 (29)	25 (11)	1/4 (1)	
500	253	ST175F	2-1/2 (64)	6 (152)	4-5/16 (110)	11-5/16 (287)	2-3/16 (56)	1-1/8 (29)	28 (13)	1/3 (1.2)	
1000	506	ST177F	2-1/2 (64)	6 (152)	4-5/16 (110)	11-5/16 (287)	2-9/16 (65)	1-1/2 (38)	34 (15)	1/3 (1.2)	
2000	1013	ST179G	3 (76)	6-1/2 (165)	3-9/16 (90)	11-5/16 (287)	2-11/16 (58)	2-1/8 (54)	48 (22)	1/2 (1.9)	
2500	1267	ST170H	3-3/4 (95)	7-5/8 (194)	5-1/2 (140)	11-1/2 (292)	3-7/8 (98)	2-3/4 (70)	74 (34)	3/4 (2.8)	
25kV (150kV BIL)											
250	127	†ST182E	2 (51)	5-1/2 (140)	3-7/8 (98)	13-15/16 (354)	1-3/4 (44)	7/8 (22)	26 (12)	1/3 (1.2)	
350	177	†ST185E	2 (51)	5-1/2 (140)	3-3/4 (95)	14-1/16 (357)	2-3/16 (56)	1-1/8 (29)	29 (13)	1/3 (1.2)	
500	253	ST185F	2-1/2 (64)	6 (152)	4-1/4 (108)	14-3/8 (365)	2-3/16 (56)	1-1/8 (29)	35 (16)	1/2 (1.9)	
1000	506	ST187G	3 (76)	6-1/2 (165)	3-15/16 (100)	14-3/8 (365)	2-9/16 (65)	1-1/2 (38)	50 (23)	2/3 (2.5)	
1500	760	ST189G	3 (76)	6-1/2 (165)	3-5/8 (92)	14-3/8 (365)	2-11/16 (68)	2-1/8 (54)	59 (27)	2/3 (2.5)	
2000	1013	ST189H	3-3/4 (95)	7-5/8 (194)	6-1/8 (156)	14-1/8 (359)	2-11/16 (68)	2-1/8 (54)	64 (29)	1 (3.8)	
2500	1267	ST190H	3-3/4 (95)	7-5/8 (194)	5-9/16 (141)	14-1/16 (357)	3-7/8 (98)	2-3/4 (70)	80 (36)	1 (3.8)	
34.5kV (200kV BIL)											
500	253	ST195G	3 (76)	6-1/2 (165)	4 (102)	17-3/8 (441)	2-3/16 (56)	1-1/8 (29)	46 (21)	3/4 (2.8)	
750	380	ST197G	3 (76)	6-1/2 (165)	4 (102)	17-3/8 (441)	2-9/16 (65)	1-1/2 (38)	52 (24)	3/4 (2.8)	
1000	506	ST197H	3-3/4 (95)	7-5/8 (194)	6-1/4 (159)	17-1/8 (435)	2-9/16 (65)	1-1/2 (38)	62 (28)	1-1/4 (4.7)	
2000	1013	ST199H	3-3/4 (95)	7-5/8 (194)	6-1/8 (156)	17-1/8 (435)	2-11/16 (68)	2-1/8 (54)	72 (33)	1-1/4 (4.7)	
2500	1267	ST190J	4-1/2 (114)	8-3/8 (213)	Horizontal Brackets. Drawings on Request				125 (57)	2 (7.6)	
46kV (250kV BIL)											
500	253	ST105H	3-1/2 (89)	7-3/8 (187)	6-3/16 (157)	22-9/16 (573)	2-3/16 (56)	1-1/8 (29)	66 (30)	2 (7.6)	
1000	506	ST107H	3-1/2 (89)	7-3/8 (187)	6-3/16 (157)	22-9/16 (573)	2-9/16 (65)	1-1/2 (38)	72 (33)	2 (7.6)	
1000	506	ST107J	4-1/2 (114)	8-3/8 (213)	Horizontal Brackets. Drawings on Request				120 (54)	2-1/2 (9.5)	
2000	1013	ST109J	4-1/2 (114)	8-3/8 (213)	Horizontal Brackets. Drawings on Request				135 (61)	2-1/2 (9.5)	
69kV (350kV BIL)											
1000	506	▲CT117K	5 (127)	9-7/8 (251)	Horizontal Brackets. Drawings on Request				330 (150)	3-1/2 (13)	

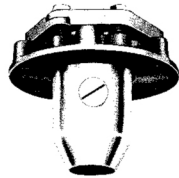
†Ordinarily for over insulated 15kV outdoor operation. Next larger bore porcelain (ST185F) recommended for 23kV actual operation for 500 kcm and below.

*For gas filled terminations, use 46kV rating for 34.5kV and 69kV for 46kV operation.

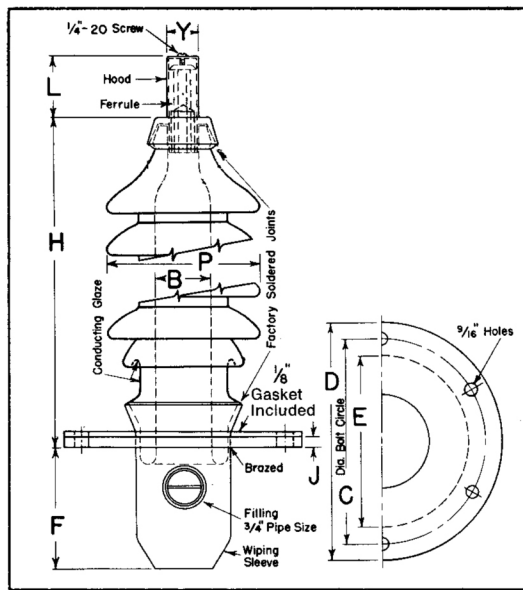
▲Includes porcelain internal stress control tube, and gasketed, spun on head and body.



STR



RST



Catalog numbers are for copper, single conductor cable and include porcelain, wiping sleeve entrance fitting and internal solder style connector. Required stress cone kits, insulating compound and aerial lugs are ordered separately. Optional connector styles, stuffing box (RS) entrance fittings are available. The terminations are applicable in oil and air insulated compartments.

Aluminum conductor cables require compression style connectors.

Note: For aluminum cable over 250 kcmil, use the next larger size termination for correct internal clearances.

Flange Size Code*	Dimensions—Inches (mm)			No. of Holes
	C	D	E	
E (SNTR)	4-1/8 sq. (105)	5-3/8 sq. (137)	4-1/2 (114)	4†
E	7-1/4 (184)	8-1/2 (216)	6 (152)	6†
F	8-3/4 (222)	10 (254)	7-1/2 (191)	8†
G	8-3/4 (222)	10 (254)	7-1/2 (191)	8‡
H	10 (254)	11 (279)	8-3/8 (213)	8‡

*Code letter appears as last digit in termination catalog number.

†Flange thickness "J"=3/8" (9.5 mm)

‡Flange thickness "J"=1/2" (12.7 mm)

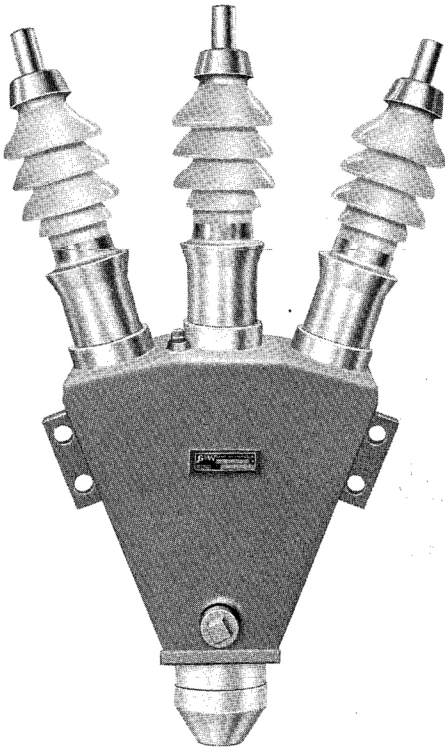
Style "STR"—For Compound, Oil or Gas Filling*

Max. Cond'r. Size	Catalog No.**	Dimensions—Inches (mm)							Approx. Shp'g. Wt. Lb (Kg)	Approx. Comp'd. Req'd. Gal (L)
		Bore "B"	O.D. "P"	F	H	L	Y			
15kV (110kV BIL)										
250	127	STR172E	2 (51)	5-1/2 (140)	4-1/4 (108)	12-9/16 (319)	1-3/4 (44)	7/8 (22)	26 (12)	1/4 (1)
350	177	STR175E	2 (51)	5-1/2 (140)	4-1/4 (108)	12-9/16 (319)	2-3/16 (56)	1-1/8 (29)	29 (13)	1/4 (1)
500	253	STR175F	2-1/2 (64)	6 (152)	4-7/8 (124)	12-13/16 (325)	2-3/16 (56)	1-1/8 (29)	33 (15)	1/3 (1.2)
1000	506	STR177F	2-1/2 (64)	6 (152)	4-7/8 (124)	12-13/16 (325)	2-9/16 (65)	1-1/2 (38)	39 (18)	1/3 (1.2)
2000	1013	STR179G	3 (76)	6-1/2 (165)	4-13/16 (122)	13-1/16 (332)	2-11/16 (68)	2-1/8 (54)	55 (25)	1/2 (1.9)
2500	1267	STR170H	3-3/4 (95)	7-5/8 (194)	6-7/16 (175)	13-5/8 (346)	3-7/8 (98)	2-3/4 (70)	84 (38)	3/4 (2.8)
Alternate: 15kV, corrugated porcelain. Square flange.										
250	127	SNTR172E	2 (51)	4-1/4 (108)	4-1/2 (114)	12-1/2 (318)	1-3/4 (44)	7/8 (22)	26 (12)	1/4 (1)
350	177	SNTR175E	2 (51)	4-1/4 (108)	4-1/2 (114)	12-1/2 (318)	2-3/16 (56)	1-1/8 (29)	29 (13)	1/4 (1)
25kV (150kV BIL)										
250	127	STR182E	2 (51)	5-1/2 (140)	4-1/4 (108)	15-9/16 (395)	1-3/4 (44)	7/8 (22)	30 (14)	1/3 (1.2)
500	253	STR185F	2-1/2 (64)	6 (152)	4-7/8 (124)	15-3/4 (400)	2-3/16 (56)	1-1/8 (29)	40 (18)	1/2 (1.9)
1000	506	STR187G	3 (76)	6-1/2 (165)	5-3/16 (132)	16-1/8 (410)	2-9/16 (65)	1-1/2 (38)	57 (26)	2/3 (2.5)
1500	760	STR189G	3 (76)	6-1/2 (165)	4-7/8 (124)	16-1/8 (410)	2-11/16 (68)	2-1/8 (54)	66 (30)	2/3 (2.5)
2000	1013	STR189H	3-3/4 (95)	7-5/8 (194)	7 (178)	16-1/4 (413)	2-11/16 (68)	2-1/8 (54)	74 (34)	1 (3.8)
2500	1267	STR180H	3-3/4 (95)	7-5/8 (194)	6-3/8 (162)	16-1/4 (413)	3-7/8 (98)	2-3/4 (70)	90 (41)	1 (3.8)
34.5kV (200kV BIL)										
500	253	STR195G	3 (76)	6-1/2 (165)	5-3/16 (132)	19-1/8 (486)	2-3/16 (56)	1-1/8 (29)	53 (24)	3/4 (2.8)
750	380	STR197G	3 (76)	6-1/2 (165)	5-3/16 (132)	19-1/8 (486)	2-9/16 (65)	1-1/2 (38)	59 (27)	3/4 (2.8)
1000	506	STR197H	3-3/4 (95)	7-5/8 (194)	7-1/8 (181)	19-1/4 (489)	2-9/16 (65)	1-1/2 (38)	72 (33)	1-1/4 (4.7)
2000	1013	STR199H	3-3/4 (95)	7-5/8 (194)	7 (178)	19-1/4 (489)	2-11/16 (68)	2-1/8 (54)	82 (37)	1-1/4 (4.7)
2500	1267	STR190J	4-1/2 (114)	8-3/8 (213)	7-9/16 (192)	19-5/16 (491)	3-7/8 (98)	2-3/4 (70)	125 (57)	2 (7.6)
46kV (250kV BIL)										
500	253	STR105H	3-1/2 (89)	7-3/8 (187)	7-1/8 (181)	24-5/8 (625)	2-3/16 (56)	1-1/8 (29)	76 (35)	2 (7.6)
1000	506	STR107H	3-1/2 (89)	7-3/8 (187)	7-1/8 (181)	24-5/8 (625)	2-9/16 (65)	1-1/2 (38)	82 (37)	2 (7.6)
1000	506	STR107J	4-1/2 (114)	8-3/8 (213)	7-7/8 (200)	24-3/4 (629)	2-9/16 (65)	1-1/2 (38)	120 (54)	2-1/2 (9.5)
2000	1013	STR109J	4-1/2 (114)	8-3/8 (213)	7-7/8 (200)	24-3/4 (629)	2-11/16 (68)	2-1/8 (54)	135 (61)	2-1/2 (9.5)

*For gas filled terminations, use 46kV rating for 34.5kV and 69kV for 46kV operation.

**For clamp style 'RST' flange add prefix 'R' to catalog number.

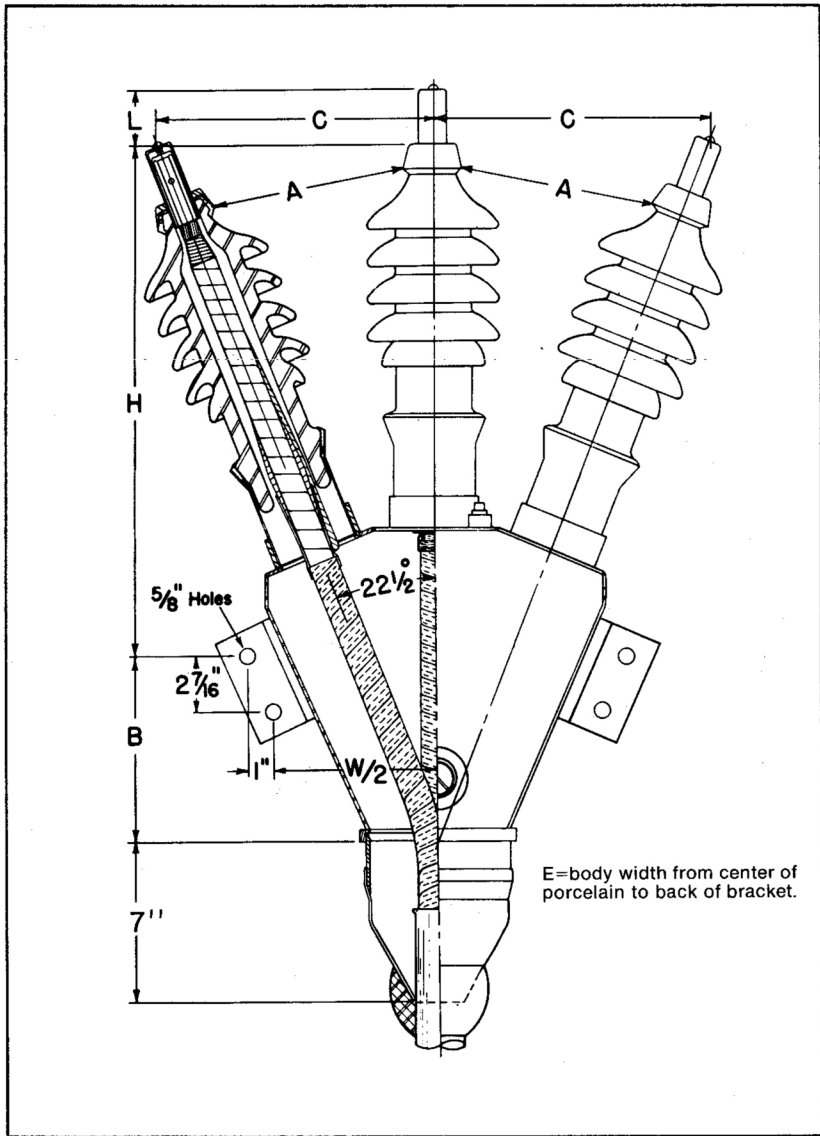
B/C Bracket Mounted



Catalog numbers are for copper, three conductor cable and include diverging porcelain, wiping sleeve entrance fitting and internal solder style connector. Required stress cone kits, insulating compound and aerial lugs are ordered separately. Optional connector styles, stuffing box (RS) entrance fittings and ground lugs are available.

Aluminum conductor cables require compression style connectors.

Note: For aluminum cable over 250 kcmil, use the next larger size termination for correct internal clearances.

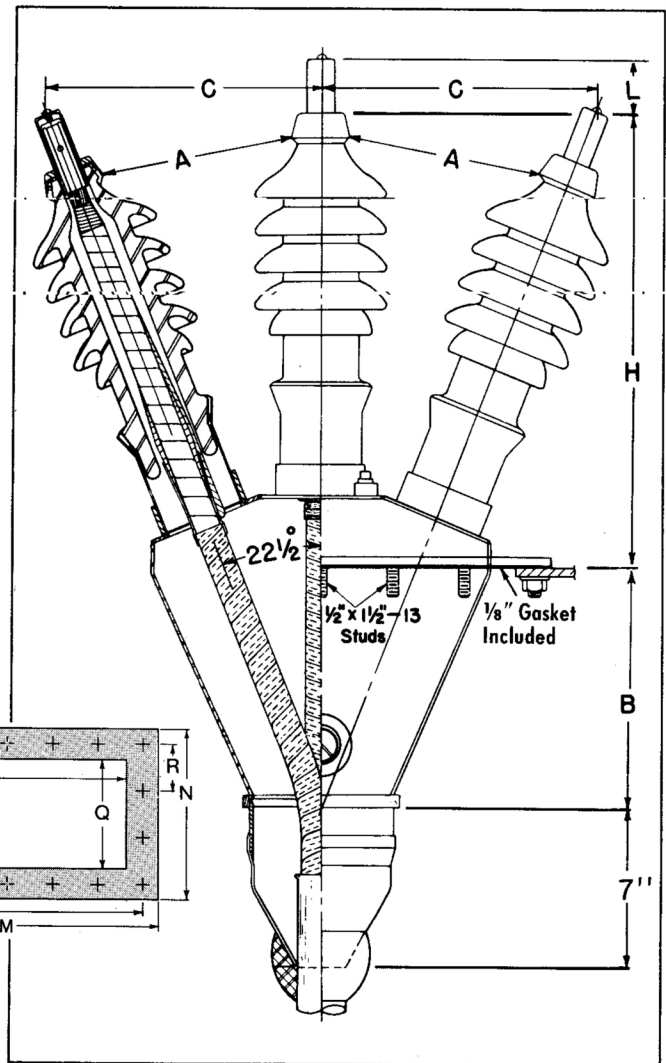
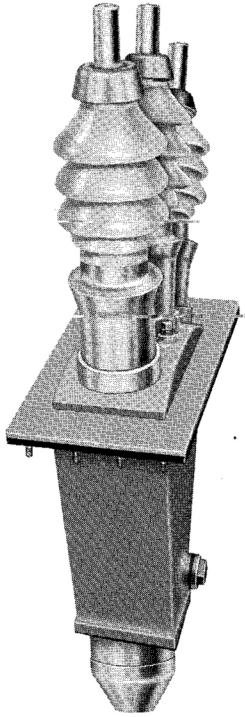


Style 'ST'—For Compound, Oil or Gas Filling*

Max. Cond'r Size		Catalog No.	Dimensions—Inches (mm)								Approx. Shp'g. Wt. Lb (Kg)	Approx. Comp'd. Req'd. Gal. (L)
KCM	mm ²		Bore	W	E	B	H	L	A	C		
15kV (110kV BIL)												
250	127	ST372E4B	2 (51)	12-7/8 (327)	3-3/4 (95)	7-1/2 (191)	20-7/8 (530)	1-3/4 (44)	8-1/8 (206)	11-1/2 (292)	140 (64)	3-1/2 (13)
500	253	ST375F5B	2-1/2 (64)	14-5/8 (371)	4-1/2 (114)	7-1/2 (191)	21 (533)	2-3/16 (56)	7-5/8 (194)	11-3/4 (298)	180 (82)	5 (19)
750	380	ST377F5B	2-1/2 (64)	14-5/8 (371)	4-1/2 (114)	7-1/2 (191)	21 (533)	2-9/16 (65)	7-5/8 (194)	11-7/8 (302)	200 (91)	5 (19)
1000	506	ST377G6B	3 (76)	17-1/2 (445)	4-1/2 (114)	11 (279)	21-3/4 (552)	2-9/16 (65)	8-1/2 (216)	13-1/2 (343)	240 (108)	7-1/2 (28)
25kV (150kV BIL)												
250	127	ST382E4B	2 (51)	12-7/8 (327)	3-3/4 (95)	7-1/2 (191)	23-7/8 (606)	1-3/4 (44)	9-1/4 (235)	12-3/4 (324)	153 (69)	4 (15)
500	253	ST385F5B	2-1/2 (64)	14-5/8 (371)	4-1/2 (114)	7-1/2 (191)	24 (610)	2-3/16 (56)	9-3/8 (238)	12-7/8 (327)	210 (95)	5-1/2 (21)
25kV (150kV BIL)												
1/0	53	ST382E6B	2 (51)	17-1/2 (445)	4-1/2 (114)	11 (279)	24-7/8 (632)	1-3/4 (44)	11 (279)	14-3/8 (365)	200 (91)	7 (27)
350	177	ST385F6B	2-1/2 (64)	17-1/2 (445)	4-1/2 (114)	11 (279)	25 (635)	2-3/16 (56)	11 (279)	14-3/8 (365)	225 (102)	7 (27)
500	253	ST385G6B	3 (76)	17-1/2 (445)	4-1/2 (114)	11 (279)	27 (686)	2-3/16 (56)	11 (279)	15-3/4 (400)	250 (114)	8-1/2 (32)
750	380	ST387G6B	3 (76)	17-1/2 (445)	4-1/2 (114)	11 (279)	27-1/2 (699)	2-9/16 (65)	11 (279)	15-7/8 (403)	270 (123)	8-1/2 (32)
34.5kV (200kV BIL)												
500	253	ST395G6B	3 (76)	17-1/2 (445)	4-1/2 (114)	11 (279)	33-1/2 (851)	2-3/16 (56)	14 (356)	18 (457)	260 (118)	8-1/2 (32)

*For gas filled terminations, use 46kV rating for 34.5kV operation.

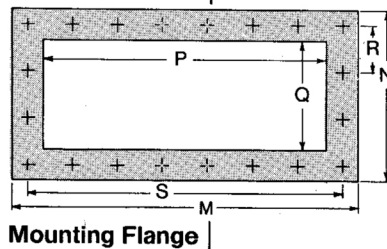
3/C Flange Mounted



Catalog numbers are for copper, three conductor cable and include diverging porcelain, wiping sleeve entrance fitting and internal solder style connector. Required stress cone kits, insulating compound and aerial lugs are ordered separately. Optional connector styles, stuffing box (RS) entrance fittings and ground lugs are available. The terminations are applicable in oil and air insulated compartments.

Aluminum conductor cables require compression style connectors.

Note: For aluminum cable over 250 kcmil, use the next larger size termination for correct internal clearances.



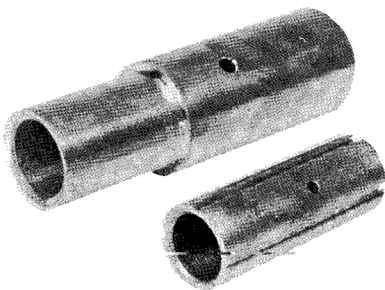
Style 'RST' – For Compound, Oil or Gas Filling*

Max. Cond'r. Size		Catalog No.	Dimensions—Inches (mm)							Approx. Shp'g. Wt. Lb (Kg)	Approx. Comp'd. Req'd. Gal (L)
KCM	mm ²		Bore	B	H	L	A	C			
15kV (110kV BIL)											
250	127	RST372E4B	2 (51)	10 (254)	18-3/8 (467)	1-3/4 (44)	8-1/8 (206)	11-1/2 (292)	150 (68)	3-1/2 (13)	
500	253	RST375F5B	2-1/2 (64)	9-3/4 (248)	18-5/8 (473)	2-3/16 (56)	7-5/8 (194)	11-3/4 (298)	185 (84)	5 (19)	
750	380	RST377F5B	2-1/2 (64)	9-3/4 (248)	18-5/8 (473)	2-9/16 (65)	7-5/8 (194)	11-7/8 (302)	205 (93)	5 (19)	
1000	506	RST377G6B	3 (76)	13-3/8 (340)	19-1/4 (489)	2-9/16 (65)	8-1/2 (216)	13-1/2 (343)	220 (100)	7-1/2 (28)	
25kV (150kV BIL)											
1/0	53	RST382E4B	2 (51)	10 (254)	21-3/8 (543)	1-3/4 (44)	9-1/4 (235)	12-3/4 (324)	160 (73)	4 (15)	
350	177	RST385F5B	2-1/2 (64)	9-3/4 (248)	21-5/8 (549)	2-3/16 (56)	9-3/8 (238)	12-7/8 (327)	215 (98)	5-1/2 (21)	
500	253	RST385G6B	3 (76)	13-3/8 (340)	22-1/4 (565)	2-3/16 (56)	9-3/4 (248)	14-3/8 (365)	260 (118)	7-1/2 (28)	
750	380	RST387G6B	3 (76)	13-3/8 (340)	22-1/4 (565)	2-9/16 (65)	9-3/4 (248)	14-3/8 (365)	280 (127)	7-1/2 (28)	
34.5kV (200kV BIL)											
500	253	RST395G6B	3 (76)	13-3/8 (340)	25-1/4 (641)	2-3/16 (56)	11-1/2 (292)	15-5/8 (397)	270 (123)	7-1/2 (28)	
Flange Size Code †	Dimensions—Inches (mm)							Total Number of Studs			
	M	N	P	Q	R	S					
4B	19-1/2 (495)	10-1/2 (267)	16-1/2 (419)	7-1/2 (191)	3 (76)	7 studs on 3" (76) centers	18				
5B	21 (533)	12 (305)	18 (457)	9 (229)	3-1/2 (89)	7 studs on 3 1/4" (83) centers	18				
6B	24-1/2 (622)	12 (305)	21-1/4 (540)	9 (229)	3-1/2 (89)	8 studs on 3 1/4" (83) centers	20				

† Flange code appears as last digits in termination catalog number.

* For gas filled terminations, use 46kV rating for 34.5kV operation.

Connectors/Aerial Lugs



CONNECTORS

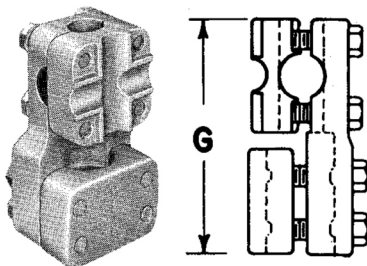
Hood Size Code†	2	5	7	9	0
Max. Cond. — KCM (mm ²)	250 (127)	500 (253)	1000 (507)	2000 (1013)	2500 (1267)
Connector O.D.—in. (mm)	3/4 (19)	1 (25)	1-3/8 (35)	2 (51)	2-5/8 (68)
Hood O.D.—in. (mm)	7/8 (22)	1-1/8 (30)	1-1/2 (38)	2-1/8 (55)	2-3/4 (70)
Catalog No.					
Solder Style (Cu)	A1323-46	A1323-29	A1323-32	A1323-37	A1323-39
Compression (Cu)*	A1323-700	A1323-702	A1323-704	A1323-706	—
Compression (AL)*	A1323-701	A1323-703	A1323-705	A1323-707	—

†Keyed with 3rd numeral of termination catalog number.

*Catalog numbers represent a series. Specify conductor size when ordering.

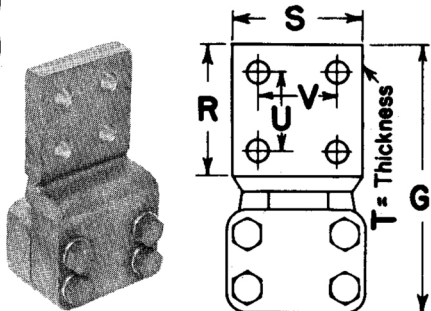
AERIAL LUGS

(Style 4) Clamp Type

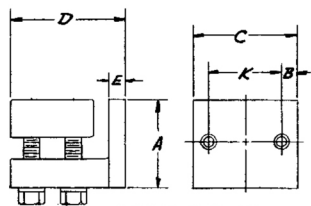


Max. Conductor		Hood O.D. (In.)	Part No.	Aerial Conductor Range	Dimensions Inches G	Approx. Shp'g. Wt. Lb (Kg)
KCM	mm ²					
250	127	7/8	A5076-12	#6 AWG to 250 KCM	3-3/8	4 (1.8)
500	253	1-1/8	A5076	#2 AWG to 500 KCM	4-1/2	4 (1.8)
1000	507	1-1/2	A5076-1	600 KCM to 1000 KCM	6	4 (1.8)
2000	1013	2-1/8	A5076-13	1000 KCM to 1500 KCM	7	4 (1.8)

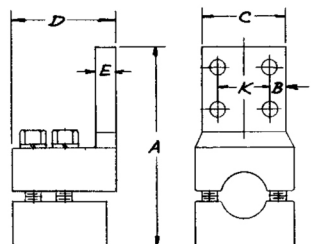
(Style 8) Vertical Flat Bus Type



Max. Conductor		Hood O.D. (In.)	Part No.	Dimensions—Inches							Approx. Shp'g. Wt. Lb (Kg)
KCM	mm ²			R	S	U	V	T	G	Holes (No.)	
250	127	7/8	A5076-14	3	1-1/2	1-1/2	—	1/2	5-5/8	7/16 (2)	1-3/4 (.80)
500	253	1-1/8	A5076-15	3	2	1-1/2	—	5/8	6	7/16 (2)	2-1/2 (1.1)
1000	507	1-1/2	A5076-16	3	3	1-1/2	1-1/2	5/8	6-3/8	9/16 (4)	4-1/2 (2.0)
2000	1013	2-1/8	A5076-11	4	4	2	2	3/4	8-1/4	9/16 (4)	12 (5.4)
2500	1267	2-3/4	A5076-17	4	4	2	2	3/4	9	9/16 (4)	14 (6.4)



A5076-106, 82



A5076-102, 140

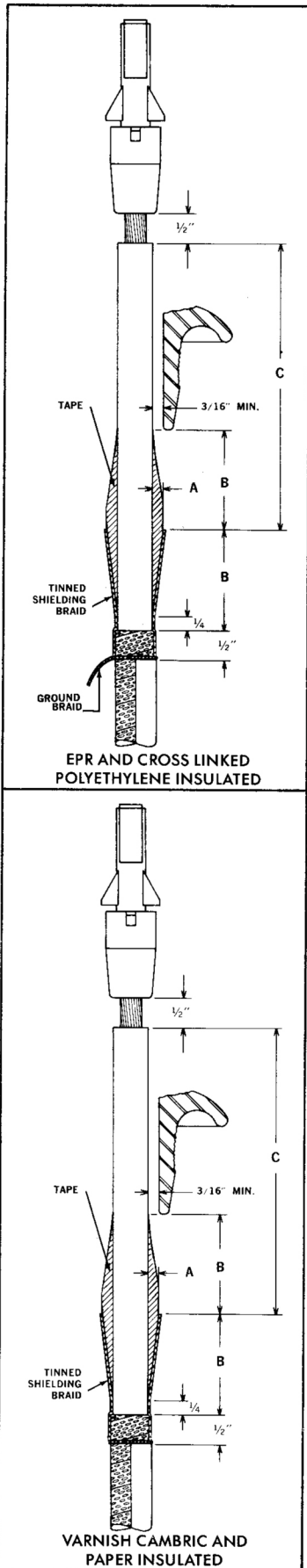
(Style 18) Horizontal Flat Bus Type

Max. Conductor		Hood O.D. (In.)	Part No.	Dimensions—Inches							Approx. Shp'g. Wt. Lb (Kg)
KCM	mm ²			A	B	C	D	E	K	Holes (No.)	
250	127	7/8	A5076-106	1-1/2	5/16	2-1/2	2-3/8	3/8	1-7/8	1/4-20 (2)	1 (.45)
500	253	1-1/8	A5076-82	2-1/16	3/8	2-1/2	2-3/4	3/8	1-3/4	3/8-16 (2)	1-3/4 (.80)
1000	507	1-1/2	A5076-102	6-1/4	5/8	3	2-3/4	1/2	1-3/4	9/16 (4)	3-1/2 (1.6)
2000	1013	2-1/8	A5076-105*	8	1	4	2-3/4	3/4	2	9/16 (4)	5 (2.3)
2500	1267	2-3/4	A5076-140	9-5/16	1	4	4-5/16	7/8	2	9/16 (4)	6 (2.7)

*A5076-105 has an offset flat bus pad dimensioned A x C

Copper lugs are standard. Silver or tin plated lugs are available.

Stress Cone Kits



Stress cone kits listed below are for compound filled terminations unless otherwise specified.

Cable	Conductor Size		kV*		
	AWG/KCM	mm ²	15	25	34.5

Varnished Cambric or Paper Insulated

(1) 1/C	1/0	53	1S5	2S10	2S10
	500	253	1S10	2S10	3S15
	1000	507	1S10	2S10	3S15
	2000	1013	2S10	2S15	4S20
(1) 3/C (3) 1/C	1/0	53	2S15	3S20	6S30
	500	253	3S20	4S25	7S35
	1000	507	3S20	5S30	8S40
	2000	1013	4S30	6S40	10S50

Rubber Insulated and Kerite

(1) 1/C	1/0	53	1V5	1V10	3V10
	500	253	1V5	2V10	3V15
	1000	507	1V10	2V10	3V15
	2000	1013	1V10	2V15	4V20
(1) 3/C (3) 1/C	1/0	53	2V15	3V20	7V30
	500	253	2V15	4V25	8V35
	1000	507	3V20	5V30	9V45
	2000	1013	3V25	5V35	10V55

Cross Linked Polyethylene or EPR insulated

(1) 1/C	1/0	53	1D10	2D10	3D15
	500	253	1D10	2D15	3D15
	1000	507	2D10	2D15	4D20
	2000	1013	2D15	3D20	4D25
(1) 3/C (3) 1/C	1/0	53	2D20	4D25	7D35
	500	253	3D25	5D35	9D45
	1000	507	4D30	6D40	10D55
	2000	1013	5D40	8D50	12D65

High Molecular Polyethylene Insulated

(1) 1/C	1/0	53	1P10	2P10	3P20
	500	253	2P10	2P20	4P20
	1000	507	2P10	3P20	4P20
	2000	1013	2P20	3P20	5P20
(1) 3/C (3) 1/C	1/0	53	3P20	4P40	8P60
	500	253	4P40	6P40	10P60
	1000	507	4P40	6P40	11P60
	2000	1013	5P40	9P60	13P60

Cable	Conductor Size		kV*			
	AWG/KCM	mm ²	15	25	34.5	46

Varnished Cambric or Paper Insulated—Oil Filled

(1) 1/C	250	127	10L01	10L10	15L01	15L10
	500	253	10L01	10L01	15L01	15L10
	1000	507	10L01	10L01	15L01	15L10
	2000	1013	10L01	15L01	15L01	20L10
	2500	1267	10L01	15L01	15L01	—
(1) 3/C	1/0	53	15L10	25L11	30L11	—
	500	253	20L10	25L11	30L11	—
	1000	507	25L10	—	—	—

Varnished Cambric or Paper Insulated—Gas Filled

(1) 1/C	250	127	10L10	10L10	15L20	15L20
	500	253	10L10	10L10	15L20	15L20
	1000	507	10L10	10L10	15L20	15L20
	2000	1013	10L10	10L10	15L20	20L20
	2500	1267	10L10	10L10	15L20	—
(1) 3/C	1/0	53	15L10	20L20	25L20	—
	500	253	20L10	25L20	25L20	—
	1000	507	25L10	—	—	—

*Consult factory for stress cone kits for 46kV and 69kV terminations.

"A" Thickness of applied insulation
 "B" Length of cone
 "C" Minimum creepage
 "D" Thickness of cover insulation
 "P" Pencil length

kV	Dimensions—Inches			
	A	B	Cmin	P

15	1/4	2-1/4	5	—
25	5/16	3	8	—
34.5	3/8	3-1/2	12	—

Oil packed varnished cambric tape and tinned copper shielding braid are recommended for use on both varnished cambric and paper insulated cables.

15	3/16	1-3/4	5	—
25	1/4	2-1/4	8	—
34.5	5/16	3	12	—

Dry packed varnished cambric tape and tinned copper shielding braid are recommended for use on rubber insulated cables, or if desired, "Nozone" rubber insulating tapes may be used. For Kerite cables tube seals are required.

15	1/4	3-1/2	5	—
25	5/16	4	8	—
34.5	3/8	4-3/4	12	—

Dry packed varnish Dacron glass tape and tinned copper shielding braid are recommended for use on cross linked polyethylene insulated cables.

15	1/4	3-1/2	5	1
25	5/16	4	8	1-1/2
34.5	3/8	4-3/4	12	2

Dry packed polyethylene tape, polyethylene semi-con tape, and dry cotton tape are recommended for use on high molecular polyethylene insulated cables. Tube seals are required.

kV	Dimensions—Inches			
	A	B	C	D

15	1/4	3	5	3/16
25	5/16	3-1/2	8	1/4
34.5	3/8	4	12	5/16
46	1/2	4-1/2	18	3/8

Oil packed, low loss varnished cambric tape and oil packed copper shielding braid.

15	1/4	3	5	1/4
25	5/16	3-1/2	8	5/16
34.5	3/8	4	12	3/8
46	1/2	4-1/2	18	1/2

Oil packed, low loss varnished cambric tape and oil packed copper shielding braid.

COMPOUNDS

Compounds are a high dielectric strength filler material used in terminations, cableheads, cable boxes and cable joints. An ideal compound should be chemically inert, adhesive and tacky; have low melting point to permit flow into all unoccupied space before solidifying, low moisture absorption, low dielectric loss, high dielectric strength and high flash and fire point for personnel safety. The selection of the proper compound for a particular installation depends upon:

1. Cable type and kind of insulation
2. Operating voltage and temperatures
3. Cable system elevation differentials (PILC cable only).

TYPES OF COMPOUND

NOVOID "A" is a medium soft asphaltic base compound recommended for use in most termination and cablehead (switch or box) installations at 38kV or below.

NOVOID "C" is a medium hard asphaltic base compound recommended for use in terminations and cableheads for application in hot climates or hot exposure at voltages up to and including 38kV.

NOVOID "X" is a hard resin-base, oil insoluble compound recommended for use in terminations, cableheads and joints where migration of the cable-tape impregnant may be a problem. There are temperature limitations.

NOVOID #224 is a heavy polybutene base compound recommended for use in terminations, cableheads and joints for polyethylene and EPR insulated cables.

NOVOID "9A" is a very soft asphaltic base compound recommended for use in spreaderhead installations up to 38kV where the compound must be very fluid to rise up in lead or copper tubes. The lower part of the spreaderhead may be filled with Novoid "X" to provide a barrier to help prevent migration of the Novoid "9A" down into the cable.

NOVOID #219 is a medium viscosity oil recommended for use as a "flushing compound" for building cable splices or terminating where such "flushing" is required. It may also be used as a filling compound in terminations and joints on solid type paper insulated cables where oil filled accessories are desired.

OZITE "B" is a medium soft asphaltic base compound recommended for use in terminations or cableheads.

THERMOMETERS

Thermometers have a stainless steel stem, adjustable clip handle and temperature scale in either Centigrade or Fahrenheit.

Catalog Number	Temperature Range	Stem Length (Inches)
CT3	150°F. to 750°F.	6
CT3-12	150°F. to 750°F.	12
CT3-18	150°F. to 750°F.	18
CT3-C	0°C. to 300°C.	6
CT3-C-12	0°C. to 300°C.	12
CT3-C-18	0°C. to 300°C.	18



Compounds are available in 1 gal., 2 gal., and 5 gal. containers.

COMPOUND SELECTOR CHART

TYPE OF CABLE INSULATION	COMPOUNDS			
	NOVOID A	NOVOID C	NOVOID X	NOVOID 224
Paper Insulated, Lead Covered P.I.L.C.	Yes	Yes Note 1	Yes Note 2	No
Varnish Cambric, Lead Covered V.C.L.C.	Yes	Yes	Yes	No
Butyl Rubber I.I.R. Type	Yes Note 3	Yes Note 3	No	No
Cross Linked Polyethylene X-L Poly.	Yes	No	No	Yes
Ethylene Propylene Rubber E.P.R.	Yes Note 3	No	No	Yes
Hi-Molecular Weight Poly	No	No	No	Yes
Kerite Insulation Permashield Type	Yes	Yes	No	No

Note 1: For abnormal temperatures -30°C (-22°F) to above 40°C (104°F).

Note 2: Not recommended for terminations and cableheads operating above 15 kV where temperature may fall below -12°C (+10°F), or 15 kV and below, where temperature may fall below -24°C (-10°F). No temperature limitation for compound used in joints.

Note 3: Maximum pouring temperature 150°C (302°F).

Temperature ranges are specified in IEEE 48-1975 standards.

TEST	A.S.T.M. Designation	NOVOID "A"	NOVOID "C"	NOVOID "9A"	NOVOID "X"	NOVOID 219	NOVOID 224	OZITE "B"	
Flash Point (°C)	D92	320	293	204	232	160	221	320	
Fire Point (°C)	D92	370	307	252	269	170	273	370	
Softening Point (°C)	D36	35	90	32	54	—	—	35	
Pouring Temp (°C) Max	—	227	232	149	177	121	121	227	
	Normal	—	149	149	121	149	110	88	149
Loss on Heating (%)	D6	.26	.27	.22	.12	.40	.30	.26	
Vol. Coef. of Exp. (in ³ /°C)	D1168	.0006	.00056	.0007	.0006	.00065	.00065	.0006	
Specific Gravity	D70	.98	.97	.99	1.14	.86	.90	.98	
Dielectric Str (v/mil) 25°C	D149 & D176	1000	920	800	900	400	500	1000	
Power Factor (%) 25°C	—	1.9	1.5	1.8	9.0	.001	.015	1.9	
	50°C	D150	2.5	2.9	5.2	7.8	.001	.025	2.5
	75°C	—	14.4	12.0	20.0	19.3	.002	.028	14.4
S.I.C.	25°C	—	2.6	2.6	2.8	4.7	2.4	2.1	2.6
	50°C	D150	2.7	2.7	2.9	6.6	2.3	2.2	2.7
	75°C	—	2.8	2.7	3.0	7.5	2.2	2.2	2.8
Consistency at 25°C	—	semi-solid	med hard	soft	hard	fluid	fluid	semi-solid	
Color	—	black	black	black	brown	clear	clear	black	
Weight (lbs./gal.)	—	10	10	10	11.5	7.2	7.5	10	

All test data are typical values.

Spreader Heads

SPREADER HEADS

Spreader heads are used in conjunction with single conductor terminations when a greater phase-to-phase aerial spacing is required than provided by multi-conductor terminations. The spreader heads are applicable on three conductor paper or varnished cambric insulated lead covered cables, rubber or polyethylene insulated jacketed cables and low pressure gas or oil insulated cables with a maximum O.D. of 5 1/4 inches. Two styles of Sodertite spreader heads are available which feature factory soldered joints for gasketless sealing. Spreader heads can be oil, gas or compound filled. For compound filling, soft Novoid "9A" is recommended. In certain applications, a harder compound such as Novoid "X" can be used to form a barrier at the base of the spreader head to reduce the possibility of migration of the soft compound into the cable.

Type "SH"

Type "SH" spreader heads consist of a spun copper wiping sleeve with a factory brazed cast bronze lid. A vertical style mounting bracket is included.

Max. O.D. Cable In. (mm)	Catalog No.	Approx. compd. Req'd. Gal. (L)	Approx. Shp'g. Wt. Lb (Kg)
2 (51)	SH6D	2 (7)	30 (14)
3 (76)	SH7D	5 (19)	55 (25)

Type "SW"

Type "SW" spreader heads are the same as type "ST" termination bodies and consist of welded steel construction with vertical style mounting brackets.

Max. O.D. Cable In. (mm)	Catalog No.	Approx. Compd. Req'd. Gal. (L)	Approx. Shp'g. Wt. Lb (Kg)
2 (51)	SW4B	3 (11)	75 (34)

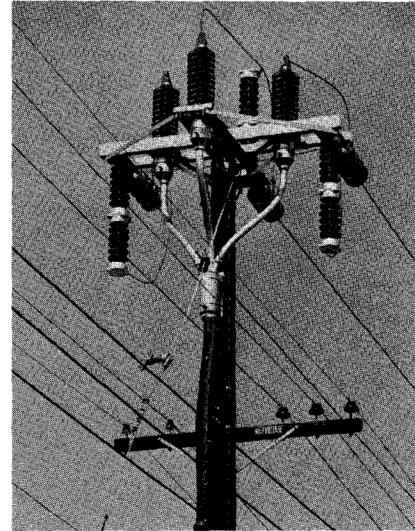


Photo shows a type "SH" spreader head with lead tubes leading to three single conductor Sodertite terminations.

